

Summary Information

Module Code	6506SPOPID
Formal Module Title	Advanced Biomechanics
Owning School	Sport and Exercise Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

Module Contacts**Module Leader**

Contact Name	Applies to all offerings	Offerings
Dominic Doran	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Portobello Institute

Learning Methods

Learning Method Type	Hours
Lecture	20
Practical	4
Tutorial	2
Workshop	18

Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-PAR	PAR	January	12 Weeks

Aims and Outcomes

Aims	The aim of this module is for students to gain the knowledge and skills necessary for evaluating gait quantitatively and to gain the critical knowledge of muscle and tendon function and adaptation.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Conduct an experimental analysis of human gait and interpret the findings
MLO2	Critically evaluate the role of muscle and tendon function and adaptation

Module Content

Outline Syllabus
Introduction to gait analysis Observational gait analysis and temporal/spatial parameters Methods of 3D movement analysis Normal gait Collection of kinematic data for assessment Invited speaker on gait analysis Relationship between muscle structure and function Voluntary activation of muscle Tendon function & adaptation Measurement techniques for muscle and tendon function

Module Overview

Additional Information

This module has a dual focus on gait analysis, and muscles and tendons. Gait analysis is the systematic study of human walking. It is one of the main practical applications of biomechanics which can make a difference for individuals in a clinical context. A critical understanding of muscles and tendon structure and function and their adaptations is vital to understanding biomechanical mechanisms in a clinical context.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Gait analysis report	50	0	MLO1
Exam	Clinical biomechanics exam	50	2	MLO2